

Appl. No. 10/559,370
Atty. Doc. No. 2003P05858WOUS

Claims:

1-18. (cancelled).

19. (currently amended) A tensioning apparatus, comprising:

a shank member comprising a length along a longitudinal axis and an outside surface parallel to the longitudinal axis along a mating portion;

an annular member comprising an opening defined by an inside surface parallel to the longitudinal axis and sized to receive the shank member mating portion with an interference fit for resisting relative motion under the influence of a tensioning force being transferred there between; and

a fluid passageway for selectively delivering a fluid pressure between the shank member outside surface and the annular member inside surface to generate a radial force ~~with no axial force component~~ to expand the opening for relaxing the interference fit for selectively allowing the relative motion between the annular member and the shank member along the mating portion.

20. (previously presented) The tensioning apparatus of claim 19, further comprising a tensioner responsive to a fluid pressure for applying the tensioning force into the shank member by pulling on the shank member while pushing on the annular member.

21. (previously presented) The tensioning apparatus of claim 20, wherein the tensioner further comprises:

a piston disposed within a cylinder to define a pressure chamber;

a first of the piston and cylinder connected to the shank member for applying the tensioning force to tension the shank member and a second of the piston and cylinder connected to the annular member for applying a reaction force through the annular member.

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22. (cancelled)

23. (previously presented) The tensioning apparatus of claim 20, further comprising:
a pressure source in fluid communication with the tensioner for applying the tensioning
force; and

the pressure source in fluid communication with the fluid passageway through a pressure
converter for relaxing the interference fit.

24. (previously presented) The tensioning apparatus of claim 23, further comprising:
oil used as a working fluid in the pressure source and being provided to the tensioner and
to a first side of the pressure converter; and

water used as a working fluid on a second side of the pressure converter and being
provided to the fluid passageway.

25. (cancelled)

26. (previously presented) The tensioning apparatus of claim 19, the fluid
passageway further comprising:

an axial passageway formed in the shank member; and

a circumferential groove formed on the outside surface of the shank member in fluid
communication with the axial passageway via a radial hole.

27. (cancelled)

28. (previously presented) The tensioning apparatus of claim 19, further comprising
the annular member selected to have a coefficient of thermal expansion that is lower than a
coefficient of thermal expansion of the shank member.

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29. (new) An apparatus comprising:
- two mating flange members with aligned holes formed there through along a longitudinal axis;
 - a shank member disposed through the aligned holes and comprising a retaining element at a first end disposed against a first of the flange members;
 - an annular member disposed about a mating portion of the shank member opposed the retaining element against a second of the flange members;
 - an inside surface of the annular member being parallel to the longitudinal axis, and being parallel to and sized to create an interference fit with an outside surface of the shank member;
 - and
 - a fluid passage for selectively delivering a fluid pressure between the shank member outside surface and the annular member inside surface to generate a radial force to relax the interference fit for selectively allowing relative motion between the annular member and the shank member along the mating portion for urging the flange members together.